DOCUMENT RESUME

ED 188 453 FL 011 178

AUTHOR Aller, Wayne K.: And Others
TITLE The Acquisition of Ask, Tell and Promise Structures by Arabic Speaking Children.
PUB DATE 77
NOTE 35p.: Revised version of a paper presented at the University of Wisconsin Linguistics Symposium (6th, Milwaukee, WI, March 18, 1977).

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Arabic: *Child Language: *Comprehension: *Language Acquisition: Language Research: *Linguistic Competence: Linguistic Theory: Sentence Structure: *Syntax: Verbs

ABSTRACT

In a study extending and refining Carol Chomsky's research, 48 Arabic speaking children aged six, eight, and ten were tested for their comprehension of imperatives using the complement-requiring verbs Ask, Tell, and Promise. Clear support for children's overgeneralization of the minimal distance principle was found only with Promise constructions. When a classification error by Chomsky (including a more complex sentence among her simplest Ask/Tell Case) was corrected by making a new case of this construction, it was found to be much harder than all but Chomsky's most difficult type. Overall, there was a strong tendency to interpret both Asks and Tells as direct speech, and therefore to ask the why clause. In the case of Ask constructions this leads to asking with the wrong subject. There were definite, age related Ask stages based on correct subject assignment. It is proposed that comprehensibility is not, as Chomsky claimed, simply one to complement clause complexity defined as the number of deletions from suface. (Author/SW)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED188453

The Acquisition of Ask, Tell, and Promise Structures by Arabic Speaking Children[1]

Wayne K. Aller

Indiana State University

Sonia K. Aller

Indiana University

Lina Malouf-Saad

American University of Beirut

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
J. Sanborn

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

FL011178

[1]This is a revised version of a paper presented at the 6th Annual University of Wisconsin-Milwaukee Linguistics Symposium, Milwaukee, Wisconsin, March 18, 1977.

Abstract

In a study extending and refining Carol Chomsky's research, 48 Arabic speaking children aged 6, 8 & 10 years were tested for their comprehension of imperatives using the complement-requiring verbs Ask, Tell and Promise. Clear support for children's overgeneralization of the MDP was found only with Promise constructions. When a classification error by Chomsky (including a more complex sentence among her simplest Ask/Tell Case) was corrected by making a new case of this construction, it was found to in fact be much harder than all but Chomsky's most difficult type. Performance on this latter Ask type (with the subject of the complement clause deleted) was, as MDP overgeneralization would predict, poorer than on the corresponding Tell construction. However, the nature of the errors raise alternatives to the MDP overgeneralization explanation. Overall, there was a strong tendency to interpret both Asks and Tells as direct speech, and therefore to ask the why clause. In the case of Ask constructions this leads to asking with the wrong subject. There were definite, age related Ask stages based on correct subject assignment. Comprehensibility is not, as Chomsky claimed, simply one to complement clause complexity defined as the number of deletions from surface.

The Acquisition of Ask, Tell, and Promise

Structures by Arabic Speaking Children

To determine the general principles underlying language acquisition and to gain insight into possible strategies utilized by children in processing linguistic material it is necessary to investigate child language acquisition in diverse languages. This paper is a contribution to this endeavor.

Until recently most of the research on child language acquisition focused on children under five or six years of age, probably due largely to the fact that the more obvious surface forms seemed pretty well under children's productive control by then. Carol Chomsky (1969) was among the first to demonstrate that there are some seemingly fairly simple syntactic structures that many English speaking children do not comprehend even by the age of ten. This paper will address itself to the acquisition of some of the same types of structures in Arabic by Lebanese children learning Lebanese Arabic as their first language.

Our focus will be on Ask/Tell/Promise constructions. In her study, Chomsky either gave a specific instruction to one child who was to execute the imperative (for Ask/Tell) by verbalizing to another child, or she asked the child to make a toy do something (for Promise). Three examples are:

(1) Ask Paul what to feed the baby.

(2) Tell Paul what to feed the baby.

(3) Bozo promised Donald to do a somersault. Make him do it.

(Bozo and Donald were a toy clown and duck, respectively, which the child was to manipulate appropriately.) It is apparent that (1) and (2) have identical surface structures; namely, a main VP, Ask/Tell Paul, plus a

question word, what, and an infinitival complement, to feed the baby. Where they differ is in the assignment of the logical subject of the infinitival verb, in (2) it is Paul who is to do the feeding, whereas in (1) it is you, unexpressed in the surface of the English imperative.

A linguistic analysis describing this phenomenon proposed by Rosenbaum (1967) is as follows -- for structures of the form:

(4) (NP_1) tell NP_2 wh- to inf VP

the general rule is to assign the NP closest to the complement verb as its subject, in this case NP_2. Thus in (2) it is Paul who is to feed the baby, since Paul, NP_2, is closer to the complement verb feed than (you), NP_1. This principle, the Minimal Distance Principle (MDP), applies to a large number of verbs in English which use complementizing verbs, e.g., tell, persuade, permit, select, want, and expect. In the latter two verbs, when there is no NP_2, e.g., "John wanted to leave," application of the MDP assigns the correct subject to the complement verb. In contrast, in (1) it is (you), NP_1, who is to do the feeding. Thus, in the case of sentences of the form:

(5) (NP_1) ask NP_2 wh- to inf VP

with the main verb ask, the rule is to assign the NP further from the complement verb, NP_1, as its subject, thus violating the MDP.

Likewise, to correctly interpret (3) the MDP must be violated, and the NP further from the complement verb must be assigned as the complement verb's subject: It is Bozo, not Donald, who is to do a somersault. Promise is thus an exception in English, in that it always violates the MDP. Ask, is only sometimes an exception because constructions using ask in the request sense do not violate the MDP. The use of ask as request involves a surface form very much like (3), but the MDP applies, i.e., it is Donald (NP_2) who is to go to the front of the line in the sentence

"Bozo asked Donald to go to the front of the line."

Since the vast majority of NP_1 V NP_2 wh- to inf VP constructions in English conform to the MDP Chomsky reasoned, not unreasonably, that children should internalize this principle and thus correctly comprehend sentences where it applies before they learn exceptions to it. Having learned to apply the MDP the child would then, initially, be expected to overextend it to those cases where it does not apply. Thus the Ask and Promise structures she studied should be more often misinterpreted than the Tell structures. Young children should thus respond to (1) "Ask Paul what to feed the baby" with "What should you feed the baby?" and to (3) "Bozo promised Donald to do a somersault, Make him do it." with a demonstration showing Donald doing the somersaulting. Further, Chomsky reasoned that since, in English, ask sometimes requires application and sometimes violation of the MDP, it should be learned later than promise, which is at least consistent.

Chomsky set out to test these hypotheses about the MDP in child language acquisition, but at an early stage in her research found that her 5- and 6-year-old children were telling irrespective of whether they had been instructed to ask or tell. Furthermore, when questioned as to whether they had asked or told, the children would insist that they had asked when in fact they had told. She concluded that children at a certain stage simply were not differentiating between the two words, and thus she proceeded "to explore the Ask/Tell distinction more generally, considering the MDP question in the context of Ask/Tell processing in general" (p. 46). She accomplished this by testing children with Ask/Tell structures which varied in the syntactic complexity of their complement clauses.

Table 1 shows the Ask/Tell sentences which Chomsky used in her study.

Insert Table 1 about here

The following summary focuses on the Ask constructions, since these caused the most difficulty for her children.

Case 1 sentences are the simplest in that the complement clause, e.g., what color this is in 1.a., contains in its surface form all the information necessary for the assignment of V-S relationships. What the child must do to carry out the ask instruction correctly is to invert the copula (is/are) with the demonstrative pronoun (this/there). Thus, in:

(7) Ask Laura what color this is. ⟶ What color is this?
(complement clause) (resulting question)

It should be pointed out, however, that sentence 1.b. does not fit the pattern of the other three examples. We will return to this point shortly.

Case 2 sentences are next in complexity since both the question word (what) and the copula (is) are omitted from the complement clause. Thus the child has to provide the two missing elements in their proper order to succeed in interpreting the ask instruction. In addition the child must change the personal pronoun from her to your for a correct response as in:

(8) Ask Laura her last name. ⟶ What's your last name?
(complement clause) (resulting question)

Case 3 sentences are the most complex since, not only is the subject of the complement clause missing, but also, there are no surface clues as to which NP should be assigned as its subject. Thus to interpret the ask construction correctly the child has to assign the missing pronoun (you) as the subject of the complement verb, and to respond correctly (s)he has to change this to I and provide the appropriate auxiliary.

(9) Ask Laura what to feed the doll. ⟶ What should I feed the doll?
(complement clause) (resulting question)

Hence, Case 3 provides a direct test of the child's knowledge of the MDP, for in tell imperatives it must be applied, while in ask imperatives it must be violated if the sentence is to be correctly comprehended.

Arabic, like English, has a sizable group of verbs which require infinitival complements. Furthermore, the MDP seems also to assign the proper NP as the subject of the infinitival verb. Among these verbs are tell (ʔaal), allow (samaḥ), force (jabar), hope (yetmana), and want (raad), etc. Interestingly, ask (ʔəsʔal) and promise (waʕad) are among the few infinitival complement-requiring Arabic verbs which violate the MDP. Since Arabic, like most languages, uses two different words, ʔəsʔal and ʔətlob, to convey the ask (question) versus ask (request) meanings, the child must learn a consistent violation of the MDP in constructions involving both ask and promise.

The specific structures used to test our Arabic speaking children's comprehension of Ask/Tell/Promise sentences are presented below along with a rationale for their inclusion in the study. Table 2 shows all construction types used, with examples.

Insert Table 2 about here

Case A_1: Ask/Tell Sonia wh-NP

(10) ʔəsʔaliy-ya la Sonia shou ʔəsm ʔəmma. → Shou ʔəsm ʔəmmaik?
Ask (to) Sonia what (her) mother's name (is). → What (your) mother's name (is)?

(11) ʔoulɪ-la la Sonia shou ʔəsm ʔəmmaik. → Rita.
Tell (to) Sonia what (your) mother's name (is). → Rita.

This corresponds to Chomsky's simplest, Case 1, structures, i.e., excluding her 1.b. type. In Arabic however, the embedded question and its corresponding question response, unlike English, do not differ in word order, i.e., the

question in Arabic does not require the auxiliary/pronoun inversion. The only change necessary is the person-marking suffix on the last word of the sentence. However, in a pilot study investigating these structures it was found that Arabic speaking children were, in general, asking when instructed to tell, the converse of what Chomsky observed in her English speaking children. For example, when sentence (11) was given, the children tended to respond with Shou ?əsm ?əmmaik? What (your) mother's name (is)? It was hypothesized that this confusion might be due to the fact that the word order in the wh-clause in the Arabic tell instruction (shou ?əsm ?əmmaik) is identical to that of a question. This being the case the children might have been interpreting the instruction as being in the "direct report" mode, i.e., as containing a direct quotation of a question, thus yeilding, "Say to Sonia, 'What (your) mother's name (is)?" We will return to this later.

Case A_2: Ask/Tell Sonia NP

(12) ?əs?aliy-ya la Sonia ?əsm ?əmmaik ⟶ Shou ?əsm ?əmmaik?
Ask (to) Sonia (her) mother's name. ⟶ What your mother's name (is)?

(13) ?oulI-la la Sonia ?əsm ?əmmaik. ⟶ Rita.
Tell (to) Sonia your mother's name. ⟶ Rita.

This type of structure is the same as Chomsky's Case 2. Note that the complement is a noun phrase without the wh-question word. Based on the observations from the pilot study mentioned above, this construction was expected to influence responses to ask, and tell differentially. In the Tell instruction the child is spared the potentially misleading wh-word which, when present, may cause the child to misinterpret the instruction as containing a direct quotation. Whereas in the Ask instructions the wh-question word is missing and has to be supplied by the child. Thus, we would predict the following performance comparisons: Ask A_1>Ask A_2, but Tell A_2>Tell A_1.

Case B: Ask/Tell Sonia wh-modal pro VP

As previously mentioned, Chomsky's sentence b, in her Case 1 seems to differ substantially in structure from the other sentences in that Case. Namely, it does not fit the pattern of Tell/Ask wh-clause with a copular verb phrase (e.g., "Ask/Tell Laura what color this is"), but rather contains a full sentential complement, which requires a differential interpretation of the personal pronoun depending on whether the instruction is tell or ask. For example:

(14) Ask Laura what you should feed the doll. What should I feed the doll?

(15) Tell Laura what she should feed the doll. You should feed the doll eggs.

This differential requirement for correct interpretation is not entailed by the demonstrative pronouns in the rest of her Case 1 sentences. Since Chomsky did not analyze responses to such structures individually, by particular sentence, it is impossible to determine how the children performed on this particular structure compared to her other structures of Case 1. In the present study this rather major discrepancy among Case 1 sentences was rectified by inclusion of the two structures as different types, our Case A_1 and Case B. Thus, for Case B structures it was expected that children

(16) ?əs?aliy-ya la Sonia shou lazaim ?ənti taʕṭi l-ləʕbai. ⟶
Ask (to) Sonia what should you give the doll. ⟶

Shou lazaim (?ana) ?aʕṭi l-ləʕbai?
What should I give the doll?

(17) ?oulI-la la Sonia shou lazaim hiyya taʕṭI l-ləʕbai. ⟶ (ʕatIha) bayḍ-a.
Tell (to) Sonia what should she give the doll. ⟶ (Give her) an egg.

would make more errors on these than on Case A structures. (Note that the auxiliary should (lazaim) precedes the pronoun in both the ask and tell instructions and in the response to ask.) The specific predictions are therefore: Ask A_1>Ask B, Ask A_2>Ask B, Tell A_1>Tell B, and Tell A_2>Tell B.

Case C: Ask/Tell Sonia wh-modal VP

It will be observed that in the Case B structures just discussed the subject of the complement verb, give, is provided as a surface pronoun after the wh-word. So the application of the MDP will result in correct interpretation of both Ask and Tell Case B structures. In order to directly test children's knowledge of the MDP, the following, Case C structures, where the subject of the complement verb is omitted, were used. This is identical to Chomsky's Case 3 structures.

(18) ʔəsʔaliy-ya la Sonia shou lazaim t-aɛṭi l-ləɛbai ⟶
Ask (to) Sonia what should you give the doll. ⟶

Shou lazaim (ʔana) ʔ-aɛṭi l-ləɛbai?
What should I give the doll?

(19) ʔoulI-la la Sonia shou lazaim t-aɛṭi l-ləɛbai. ⟶ Bayḍ-a.
Tell (to) Sonia what should (you/she) give the doll. ⟶ An egg.

Since these Tell and Ask Case C sentences have identical surface structures, to interpret them correctly a child must know that tell requires the application of the MDP and ask requires its violation. Thus we would predict that performance would be better on Tell C than on Ask C.

In comparing Ask B with Ask C, and Tell B with Tell C it is obvious that the child might more easily comprehend both the B structures because of the presence of the subject (pronoun) in the complement clause. However, the advantage of the Ask B over the Ask C structure is expected to be much greater than the advantage of the Tell B over the Tell C because, in both tell constructions, the application of the MDP will result in correct comprehension. In the case of Tell B the presence of an explicit pronoun in the surface of the complement clause may be of some help, but in the case of Ask B the presence of the surface pronoun should be of tremendous help in correctly interpreting the sentence compared to Ask C. In Ask C, where the MDP is violated, the child, if (s)he doesn't know it

is violated, assigns NP_2 as the subject of the complement verb, resulting in an incorrect interpretation. But applying the MDP results in correct interpretation of the sentence in Ask B where the subject of the complement clause appears in the surface. Our predictions regarding correct interpretation are then: Tell C>Ask C, Ask B>Ask C, and Tell B>Tell C.

In order to construct Case C, subject omitted, sentences, a problem inherent in Arabic had to be overcome. The problem is that Arabic verbs are marked initially and/or terminally for gender and person of their subjects. Let us look at an example. Suppose we were to choose the verb daras (study). When the instruction's addressee is a male, as in sentences (20) and (21) below, there is no problem because the initial and terminal gender/person markings on the verb are identical in Tell and Ask, yielding tədros, and thus do not give away the subject of the complement verb. Therefore, to

(20) ʔəs?al-a la Sonia shou lazaim tədros.
Ask (masculine) her to Sonia what should you (masculine) study.

(21) ʔəlla la Sonia shou lazaim tədros.
Tell (masculine) her to Sonia what should she study.

assign the correct subject of the complement verb one must have in her (his) grammar the knowledge that the MDP is to be applied for Tell but violated for Ask. However, in the case of (22), when the instruction's addressee is a female, the terminal /I/ on the complementing verb marks its subject for second person feminine, thus making the sentence in fact a Case B, subject supplied, sentence (the initial marker /t/ in (20), (21), and (22) marks the subject as second person masculine or feminine, or third person feminine).

(22) ʔəs?aliy-ya la Sonia shou lazaim tədrəsI.
Ask (feminine) her to Sonia what should you (feminine) study.

To eliminate this problem we selected verbs such as taʕtI (give), and taʕmI (feed) with initial /t/ and terminal /I/ phonemes, thus providing redundancy with subject gender and person morphemes for all combinations of female experimenters, male and female child addressees. Only if one knows that the MDP holds for Tell but must be violated for Ask does the terminal ending read you in the Ask structures but she in the Tell structures. Promise and Tell P constructions, (19) and (20), respectively:

(23) ʔə-shaʔra wa adait ? -ssamra t-nəṭ ʕa ʔəjr waḥdai. KhallI-ha t-neṭ. ⟶
The blonde promised (to) the brunette (to) jump on foot one. Make her (to) jump. ⟶

action.
action.

(24) ʔə-shaʔra ʔaalait l samra t-nəṭ ʕa ʔəjr waḥdai. KhallI-ha t-neṭ. ⟶
The blonde told (to) the brunette (to) jump on foot one. Make her (to) jump. ⟶

action.
action.

These constructions have identical surface structures, but promise violates the MDP. Thus we would predict Tell P>Promise, and that most of the errors on the promise construction should be due to assignment of the second NP (e.g. the brunette) as the subject of the infinitival verb.

Since our pilot study with Arabic speaking children indicated that they were asking when instructed to tell, even in the simplest cases, several other conditions were added to test the possibility that factors other than "linguistic knowledge" might be influencing their performance. These conditions involved 1) the influence of the cognitive load which linguistic tasks impose on the child, i.e., whether the child has to make a choice before (s)he can respond, and whether the response can be retrieved from short term store or must be retrieved from long term store, and 2) the difference between linguistic production and linguistic comprehension. (The technique employed here was to use show constructions paralleling

the four tell construction types.) Only 10 of the 17 sentence construction types actually used will be discussed in the paper.

Experimental Design and Procedure

Each of the 17 structural types used in the research was represented by four sentences, resulting in a total of 68 sentences. From each structural type two sentences were chosen at random and assigned to Form A, the other two being assigned to Form B. Within each Form all sentences were randomized and typed, 12 sentences per page. The pages were then randomized. Each child was tested on two different days within the same week. Half received Form A first, and half Form B first.

The subjects of the experiment were 48 Lebanese monolingual Arabic speaking children from three private elementary shcools in Beirut, each of slightly above average (for Lebanon) socio-economic standard. There were 8 boys and 8 girls in each of three age groups. The mean age for each group was 6;4, 8;5, and 10;4 (years;months) with a range of from 8 to 9 months around each mean.

The experimenters (E's) were two adult female speakers of Arabic, the one who gave the sentences to the children in the experiment (E_1) having a Beirut accent. The Es both spent several days at each school getting to know the children, interacting with them at recesses, etc., prior to the beginning of the experiment. Each child was tested individually in a quiet room with E_1 giving the instructions to the child while E_2 served as a conversation partner for the child. A variety of toys, including dolls, doll clothing, a cat, a horse, two cars, boxes, and plastic food items were used to create the concrete situations necessary for each instruction given by E_1 to the child. At the outset of the first session E_1 acquainted the child with all the toys to be used by asking the child to name each one individually. Next E_1 acquainted the child with the task by engaging

her (him) in conversation with E_2 using instructions similar to those to be used in the experiment. Several example sentences were used to emphasize to the child that sometimes (s)he should listen carefully to each instruction. We particularly emphasized that the tell instruction was not to be interpreted as a "repeat" or "say to--" instruction. On approximately one-third of the trials where a child interpreted ask as tell or tell as ask (s)he was asked "Now did you just ask, or did you just tell?" This was done to keep the child attending to the two instruction words. All children were checked for their knowledge of the word promise before the first experimental session began. After insuring a child's understanding of the task the first session started. E_1 repeated each instruction twice. A slightly abbreviated orientation procedure was used prior to the beginning of second sessions.

Results and Discussion

The first set of analyses made was on the percentage of sentences correctly responded to as a function of age of the child and type of sentence construction. Table 3 presents these data descriptively. An Age by Construction Type ANOVA with repeated measures on Construction

---

Insert Table 3 about here

Type was carried out on the correct response data. Both Age and Construction Type were found to be statistically significant, $F(2,45)=3.395$, $p=.0426$ and $F(16,720)=48.04$, $p<1\times10^{-7}$, respectively. There was no interaction between Age and Construction Type. A priori t tests between 6- vs. 8-, and 8- vs. 10-year-olds collapsed across all ten constructions shown in Table 3 revealed that both pairwise comparisons were significant

beyond the .01 level. Thus, performance on these structures taken as a whole does improve with age.

Preplanned comparisons were conducted to test for the significance of differences between the pairs of constructions shown in Table 4. This table also summarizes the direction of the predictions, their theoretical

---

Insert Table 4 about here

---

bases, and the results of the statistical tests.

As can be seen from Table 3, relatively few errors were made on Ask and Tell, A_1 and A_2, sentences. Our predictions of children's performance, based on syntactic complexity of the complement clause, were not substantiated. Recall that we reasoned that Ask A_1, "Ask (to) Sonia what (her) mother's name (is)," would be easier than Ask A_2 "Ask (to) Sonia (her) mother's name" because in the former the question word, which is required for a correct response, is provided in the instruction, while in the latter it is not. There was a very small (but insignificant) difference in the predicted direction. In the tell instructions we reasoned that Tell A_2, "Tell (to) Sonia (your) mother's name," would be easier than Tell A_1, "Tell (to) Sonia what (your) mother's name (is)" because in the former the child is spared the presence of the potentially misleading question word. The differences observed were in the predicted direction, but failed to reach significance ($p=.061$). It would appear that since all four of these constructions were so easy, a ceiling effect may have reduced the possibility of obtaining statistically significant differences.

Let us now look at Case A_1 and A_2 versus Case B constructions. We claimed that Chomsky's Case 1.b construction was more complex than the rest of her Case 1 constructions, and that it presented even more complex problems for children than her Case 2 constructions. Our data bear out

these claims. All our B constructions are, as Table 4 shows, much more difficult than their A_1 and A_2 counterparts, ($p < .001$ for all Ask and Tell comparisons). It is perhaps worth noting that Kessel (1970) chose Chomsky's Case 1.b, her one-of-a-kind construction, as the model for the complement clauses of all of his "Case 1" sentences, and then went on to compare his results using three ask and three tell sentences of this kind with Chomsky's Case 1 (pp. 48, 55). This comparison is unfortunate since, as we have demonstrated, the sentences are not at all comparable.

A conceptual departure we must take from C. Chomsky in explaining children's comprehension of Ask/Tell constructions is based on observations made available in our study due specifically to our separation of her 1.b type sentences from the rest of her Case 1's. Our Lebanese children's responses on this type of sentence, especially the Tell's, make it obvious that simply because one of two surface structures is more complete (has fewer elements missing) than the other, it should not necessarily be expected that it will be more easily comprehended. Degree of explicitness of surface structures was one of the two major predictors of comprehension proposed by Chomsky, i.e., her Case 1 sentences were claimed to be simpler and predicted to be more easily comprehended than her Case 2 sentences, because in the former, but not in the latter, the subject of the complement clause is present on the surface. As we have seen above, there were no significant differences in performance on these two types (excluding the 1.b type) in Arabic. Furthermore, our children did significantly worse on Case B (her 1.b), with no missing elements, than either our Case A_1 or A_2 (her 1 and 2). The types of errors made on Case B sentences are particularly informative, a point to which we will turn shortly.

The three predictions relevant to the MDP were all strongly supported. The Tell P construction, where the MDP applies, produced much better per-

formance than the Promise construction where the MDP is violated. Performance on the Tell C Construction, where the MDP applies, is much superior to performance on the Ask C Construction, where the MDP is violated. Finally, performance on the Ask B construction (Chomsky's odd Case 1) is significantly better than is performance on the Ask C construction.

Notice that performance was better on Promise than on Ask C ($\bar{X}$=36% vs. $\bar{X}$=11% correct across all age groups) even though both violate the MDP. Chomsky obtained similar results and interpreted the difference as a confirmation of her claim that the English verb ask is more complex than the English verb promise because ask has two meanings in English, the request meaning where the MDP applies, and the question meaning where the MDP is violated, whereas promise constructions always violate the MDP. This reasoning cannot be applied to our findings, however, since the Arabic verb ask (?əs?al) has only one meaning, the question meaning, which always violates the MDP. The reason for the superior performance on Promise as compared to Ask C constructions is probably due in part to the presence of the wh-clause in the Ask C construction, and in part due to the fact that Ask C requires a complex verbal response, while Promise requires no verbal production. (We have other evidence which supports this latter factor; namely, children did much better on our Show constructions than on their Tell counterparts.) Nevertheless, it is clear from comparing performance on Promise with Tell B and C, and Ask B, that failure to violate the MDP is a major problem, for these latter constructions contain wh-clauses and require complex verbal responses, yet produce performance superior to Promise.

Now let us look more closely at Ask C and Ask B constructions. We had predicted that two factors would make Ask B easier than Ask C:
1) If the MDP is applied to Ask B constructions correct comprehension will result, and since application of the MDP is easier than its violation,

then Ask B should be easier than Ask C; and 2) Ask B contains an explicit subject of the complement clause. As shown in Table 4, children did significantly better on Ask B than on Ask C. However, we also predicted that, since Tell B provides a subject of the complement clause and Tell C does not, Tell B should be easier. (MDP considerations are irrelevent for this comparison.) But this Tell B versus Tell C prediction is not supported. Once again then we see that the more complete surface structure is not easier to comprehend. This being the case, plus the fact that, although in Tell B the application of the MDP would result in correct comprehension, we believe that the superiority of Ask B over Ask C cannot be attributed to the completeness of the surface structure either.

The unexpected Tell B/C result focuses our attention on the structure of the B cases, both Ask and Tell, and the pattern of errors most commonly made by our children on these structures. Let us now examine these errors. Considering Ask C first (Table 5) we see that over half of all responses

---

Insert Table 5 about here

---

were errors which may be attributed to the misapplication of (failure to violate) the MDP, resulting in the response, "What should you give the doll?" Notice however, that this same response constitutes almost half of the errors in the Ask B case also. But in the Ask B case we cannot attribute this response to the misapplication of the MDP, since, as argued above, application of the MDP would result in the correct response, "What should I give the doll?" Thus, we propose that in the case of Ask B, at least, children who responded with "What should you give the doll?" were interpreting the instruction as being in the direct report mode, i.e., they were interpreting the construction as "Ask (to) Sonia: 'What should

you (Sonia) give the doll?'." The fact that the response had the question intonation, and the fact that the second person pronoun was not changed support this argument.

It is interesting to note, in this connection, the Tanz (1976)[2] found almost 20% of her 3;6-to 5;1-year-old children sometimes responded to an instruction such as "Ask Tom where you should sit" with "Where you should sit?". She notes that this type of error could be accounted for by what we have called direct report interpretation of the E's instruction, i.e., interpreting it as "containing a direct quotation of a question rather than a subordinated question" (p. 91). She points out that to get this reading the child would have to fail to attend to two cues in the adult's instruction: 1) lack of question intonation, and 2) non-inversion of subject and verb. She then rejected the hypothesis that this is what her children were doing on the grounds that it lacked generality, failing to explain their responses to two other types of sentences she used. However, in our study, since there is no (potential) cue from non-inversion of subject and auxiliary verb in the complementizing wh-clause which the child would need to ignore in order to interpret the instruction as a direct report, such an interpretation becomes much more attractive.

Even stronger evidence in support of our contention that the children were interpreting the Ask B instructions as if they were direct report instructions, i.e., instructions to ask a question, comes from their responses to Tell B and Tell C constructions (Table 5). Nearly one-half of all responses to Tell B, "Tell (to) Sonia what should she give the doll," were the same responses as given to Ask B, "What should you give the doll?". Since children changed the third person pronoun (she) in the instruction to the second person pronoun (you) in their response, and since they used the question intonation, they must have been interpreting the instruction as

being one of direct report, i.e., as being "Tell (say) (to) Sonia the question '.....'?". This was the only type of error our children made on tell B structures, and notice that they made two and one-half times as many of these direct report errors on Tell B as on Ask B even though the overall error rate is very similar on the two structures. As can be seen in Table 5, this type of error was also made on Tell C, although not as frequently as on Tell B. It is obvious from inspecting Table 5 that this reasoning accounts for a large proportion of the errors on Ask and Tell constructions. The fact that children changed the pronoun in Tell B from she to you, coupled with the fact that they did not change the second person pronoun in Ask B, compels us to conclude that their errors are due to their interpreting these instructions as being direct report constructions. It is interesting to note that, although C. Chomsky does not stress the fact, several of her children also asked to Tell instructions. Examples of this can be found on her Case 1, 2, and 3 structures (e.g., p. 68, 73, 94 respectively).

There are two factors which may play a role in our children's interpretation of these structures as being in the direct report mode. First, in the case of Tell constructions, the Arabic word for tell (?oul) also means say, the verb most commonly associated with the direct report mode, as in, "John said, 'Mary, put the book on the Table'", as opposed to, "John told Mary to put the book on the table," or "John told Mary where to put the book". Second, in both Ask and Tell B and C, as mentioned above, the complement wh-clauses, unlike English, are well-formed questions in terms of morpheme order, such that they could stand alone as questions.

Why, one might ask, were there less than half as many direct report errors on Tell C as on Tell B? Recall that the terminal morpheme on the complement verbs in the Ask/Tell C sentences had to be ambiguous as to

person of the subject to meet the "subject omitted" condition and allow knowledge of the MDP to be tested in Case C. It would seem that the ambiguous subject marker on the verb was not as strong a cue for the **direct report** interpretation as was the explicit pronoun in Case B; thus the greater the diversity of responses in the ambiguous pronoun condition. Exactly how the explicit versus ambiguous pronoun morphemes play their differential roles in Arabic speaking children's interpretation of these and other utterances deserves further investigation.

Let us now turn our attention to another category of error, repeat errors. Note that children made quite a few repeat errors on Tell C, but none on Tell B. A repeat was classified as such, and not as a question, on the basis of the intonational contour and stress pattern of the response uttered by a child. This is best illustrated by looking at examples of differential stress which might be placed on instructions to the child.

(25) ʔoulI-la la Sonia shou lazaim taʕṭi l-ləʕbai?
Say (to) Sonia, "What should (you/she) give the doll?"

(26) ʔoulI-la la Sonia shou lazaim taʕṭi l-ləʕbai.
Tell (to) Sonia what should (you/she) give the doll.

The instruction was always given by E_1 as in (26) without question intonation and stress. Children who repeated had to be interpreting Tell C as something like "Say after me (to Sonia) 'What should give the doll'", which, without the question intonation and stress, is nonsense. Chomsky observed similar errors. At least one of her children repeated on her Tell Case 3 (p.70), and one repeated the wh-clause of her Ask Case 3 (p. 59). Three of our children, all 10-year-olds, consistently repeated on Ask C. Surprisingly, there was a slight tendency for our older children to repeat more on Tell C than the two youngest age groups. Even more difficult to explain is the fact that, to Ask C instructions, 26.6%

of our 10-year-olds' responses were repeats, while none of our 6- and 8-year-olds' responses were of this sort. It is as if some of our 10-year-olds were perceiving the entire test situation as a drill to repeat exactly what an adult says. It seems not entirely unlikely that older children might have had more classroom experience in being asked to do such things than younger children. There is probably more emphasis on memorizing, repeating back exactly what is given by the teacher, in most Lebanese primary schools than in American primary schools (a vestige of the old French educational system). The fact that our verb tell means say must have also played a critical role.

Comparing our children to Chomsky's in terms of Ask comprehension "Stages" we find that three of our children, compared to eight of hers, were at Stage A, failing all constructions, and one of ours, compared to two of hers, was at Stage B, passing the simplest construction (A_1), but failing all others.(3) Only one of our children, a 10-year-old, as compared to 14 of Chomsky's children, was at the most advanced (E) Stage, passing all constructions. Direct comparison with Chomsky's Stages C and D is impossible for two reasons. First, we have an extra construction type. Second, Chomsky's Stage D consisted of children who succeeded on the two easiest constructions, but asked with the wrong subject (you) on the most difficult construction. She called this "partial success", reasoning that, since they at least asked instead of making the dominant error of telling, they were at a more advanced stage than children who told. Since our children's most common error to Ask constructions was to ask with the wrong subject (direct report interpretation) it can be argued that the underlying metric upon which our stages should be based is that of correctness of grammatical assignment. When stages were constructed in this way 18 children (7, 6, and 5, 6-, 8- and 10-year

children in our first two Ask stages passed Promise. Three of the 18 children who passed Ask A_1 and A_2, but failed B and C, passed Promise, and nine of the 22 children who passed Ask A_1, A_2 and B, but failed C, passed Promise.

Since Promise constructions do not require linguistic production, and cannot be interpreted as direct report constructions, they should reflect a fairly 'pure' measure of a child's ability to violate the MDP. We therefore expected Promise to be easier than Ask C, although both require violation of the MDP. Of the 12 children who passed Promise not one passed Ask C. (The only child who passed Ask C failed Promise.) Four of these children consistently asked with the wrong subject (you), the type of response which we have classified as direct report interpretation when made on Tell B and C, and Ask B. Thus, the errors of these four subjects, errors we have called "Ask with the wrong subject," although they could be construed to be errors due to failure to violate the MDP, might also be due, as we have previously mentioned, to interpretation of the instruction as a direct report instruction. And, since, from their performance on Promise, these four children have demonstrated that they know how to violate the MDP, we conclude that they are interpreting Ask C as a direct report construction. Of the other eight children who passed Promise, two always repeated, one always told and the other five produced mixed errors on Ask C.

The most straightforward test of children's knowledge of the MDP is to contrast performance on Promise, where the MDP must be violated, with performance on Tell p where the MDP must be applied. Thirty-three children (12, 13 and 8, 6-, 8- and 10-year-olds, respectively) passed Tell p, but did not pass Promise, while eight (2, 1 and 5, 6-, 8- and 10-year olds, respectively) passed both. Contrary to predictions based

on the MDP, three children passed Promise while not passing Tell p (see Table 7).

Summary

Let us now summarize our major conclusions:

1) The overgeneralization from MDP argument explains the differences in children's better performance on Tell p than on Promise Structures, where in neither case linguistic production is required.

2) Although performance on Ask C (when the subject of the complement clause is omitted) is poorer than on Tell C, as predicted by the MDP argument, our children's particular responses on these constructions (and on our Ask B and Tell B constructions) preclude an explanation completely in terms of the MDP argument. Our children showed a strong tendency to ask incorrectly to both Ask B and C and to Tell B and C constructions. This was due to their interpretation of the instructions as direct reports (quoted speech). In the Tell cases we attributed this partly to the fact that the word tell in Arabic also means say (to), and partly to the fact that the wh-clause could stand alone as a well-formed (ignoring inflectional contours) question in Arabic. In the case of ask, which is unambiguous in Arabic, only the latter factor obtains. Thus, language specific factors may play a major role in our children's tendency to interpret Ask and Tell B and C constructions (those of the form Ask/Tell wh-modal (PRO) VP) as if they were direct reports, although this issue deserves further study. In any case, direct report interpretations lead to the same error or Case C Asks as would be predicted by the overgeneralization from MDP argument.

3) Carol Chomsky included one exemplar in her simplest (Case 1) Ask/Tell constructions which was not only more complex than the rest of her Case 1s (of the form Ask/Tell NP_1 wh-NP_2) but was also more complex than her Case 2s (of the form from Ask/Tell NP_1 NP_2). Our Case B tests confirm

that this structure (of the form Ask/Tell NP_1 wh-modal PRO VP) is clearly harder for children to comprehend than Chomsky's Cases 1 and 2 (our A_1 and A_2).

4) Contrary to C. Chomsky's contention, linguistic complexity of the complement clause, defined in terms of omissions of grammatical units from surface structure, is not the major determinant of comprehensibility. Her Case 2 (our A_2) is no more difficult than her Case 1 (our A_1), and our Case B (her odd $Case_1$), which has nothing deleted from surface, is clearly more difficult than our A_2 where the question word (<u>what</u>) and the copular (<u>is</u>) are deleted from the complement clause. Children's performance depends upon the <u>nature</u> of the surface elements present or deleted in relation to other elements--on nonsyntactic, semantic, perhaps even pragmatic, factors.

5) Five Ask stages emerged, based upon correctness of grammatical assignment of subject. There was wide age variation within stages. While there was some tendency for children who interpreted Ask constructions as direct reports to do the same with Tell's, no combined, integrated Ask/Tell Stages emerged from the data. There was a positive correlation between correct comprehension of Promise structures and Ask comprehension stage.

6) Promise constructions, which do not require linguistic production for a demonstration of comprehension are considerably easier for children than their Ask counterparts (Ask C's). Since in Arabic, unlike English, <u>ask</u> has only one meaning, this asymmetry is probably due to the competency/performance difference in the tasks.

References

Chomsky, C. The acquisition of syntax in children from 5 to 10, Cambridge, Mass. M.I.T. Press, 1969.

Kessel, F.S. The role of syntax in children's comprehension from ages six to twelve. Monographs of the Society for Research in Child Development, 1970, 35, (6, Serial No. 139).

Rosenbaum, R.S. The grammar of English predicate constructions, Cambridge, Mass. M.I.T. Press, 1967.

Tanz, C.M. Studies in the acquisition of deictic terms, (Doctoral dissertation, University of Chicago, 1976).

Footnotes

1. This research was supported by a Research Grant from the Ford Foundation awarded to the first two authors through the Center for Behavioral Research, American University of Beirut. We wish to thank E.T. Prothro, Director of the Center, for his support, and Sana Takla for her assistance in sentence construction and data collection. Parts of this research formed the basis of the third author's M.A. thesis at the American University of Beirut.

2. We are grateful to Thomas Roeper, who, after hearing our paper at the Symposium, brought to our attention Tanz's unpublished data and the similarity of our hypothesized explanation to hers.

3. "Passing" was defined as Chomsky defined it, i.e., being correct on at least 3 out of 4 examples of a construction.

4. A child was defined to have exhibited direct report interpretation on Ask if (s)he interpreted as a direct report 3 or 4 out of 4 sentences of Ask B, Ask C, or both. A child was defined as exhibiting direct report interpretation on Tell if (s)he interpreted as a direct report 3 or 4 out of 4 sentences of at least two of the four following construction types: Tell A_1, Tell A_2, Tell B, and Tell C.

Table 1

Constructions Used in the Ask/Tell Interview, Listed in Order of Increasing Complexity (adapted from Chomsky, p. 47)

Case 1.	wh-clause, subject supplied
a.	Ask/Tell Laura what color this is
b.	Ask/Tell Laura what you/she should feed the doll
c.	Ask/Tell Laura how many pencils there are here
d.	Ask/Tell Laura who this is
Case 2.	noun phrase
a.	Ask/Tell Laura her/your last name
b.	Ask/Tell Laura the color of this book
c.	Ask/Tell Laura her/your teacher's name
Case 3.	wh-clause, subject omitted
a.	Ask/Tell Laura what to feed the doll
b.	Ask/Tell Laura which food to put in the box
c.	Ask/Tell Laura what to put back next
d.	Ask/Tell Laura what color to make the square

Table 2

Types of Arabic Ask/Tell/Promise Constructions Used

Constructions		Example Instructions	Example Responses
Case A_1	Ask	?əs?aliy-ya la sonia shou ?əsm ?əm-ma. Ask -her to Sonia what name mother-her. [a] Ask (to) Sonia what (her) mother's name (is).	Shou ?əsm ?əm - maik? What name mother-your? What (your) mother's name (is)?
	Tell	?oulI-la la Sonia shou ?əsm ?əm-maik. Tell -her to Sonia what name mother-your Tell (to) Sonia what (your) mother's name (is).	Rita Rita
Case A_2	Ask	?əs?aliy-ya la Sonia ?əsm ?əm-ma. Ask -her to Sonia name mother-her. Ask (to) Sonia (her) mother's name.	Shou ?əsm ?əm - maik? What name mother-your? What (your) mother's name (is)?
	Tell	?oulI-la la Sonia ? sm ? m-maik. Tell -her to Sonia name mother-your. Tell (to) Sonia (your) mother's name.	Rita Rita
Case B	Ask	?əs?aliy-ya la Sonia shou lazaim ?ənti taʕṭi l-ləʕbai. Ask -her to Sonia what should you give the doll. Ask (to) Sonia what should you give the doll.	Shou lazaim (?ana) ?-aʕṭi l-ləʕbai? What should (I) I-give the-doll? What should I give the doll?
	Tell	?oulI-la la Sonia shou lazaim hiyya taʕṭi l-ləʕbai. Tell -her to Sonia what should she give the doll. Tell (to) Sonia what should she give the doll.	(ʕatIha) bayḍ-a (Give-her) egg - an (Give her) an egg
Case C	Ask	?əs?aliy-ya la Sonia shou lazaim t-aʕṭi l-ləʕbai. Ask -her to Sonia what should (you/she) give the doll. Ask (to) Sonia what (you/she) should give the doll.	Shou lazaim (?ana) ?-aʕṭi l-ləʕbai? What should (I) I-give the-doll? What should give the doll?
	Tell	?oulI-la la Sonia shou lazaim t-aʕṭi l-ləʕbai. Tell -her to Sonia what should (you/she) give the-doll. Tell (to) Sonia what (you/she) should give the doll.	(atI-ha) bayd-a (Give-her) egg-an (Give her) an egg
Promise		?ə -sha?ra waʕadait ?ə -ssamra t -nəṭ ʕa ?əjr waḥdai. The-blonde promised the-brunette she-jump on foot one. The blonde promised the brunette (to) jump on one foot.	Khalli-ha t -nəṭ. action Make -her she-jump. Make her (to) jump. action
Tell p		?ə -sha?ra ?aalait lə-s -samra t -nəṭ ʕa ?əjr waḥdai. The-blonde told to-the-brunette she-jump on foot one. The blonde told (to) the brunette (to) jump on one foot.	Khalli-ha t -nəṭ. action Make -her she-jump. Make her (to) jump. action

[a] The second of each translation is the one used in the text.

Table 3

Percentage of Ask/Tell/Promise Constructions Correct

Construction	Age 6	8	10
Tell A_1	77%	80%	83%
Ask A_1	81%	91%	94%
Tell A_2	83%	91%	94%
Ask A_2	78%	97%	92%
Tell B	45%	50%	55%
Ask B	44%	62%	66%
Tell C	55%	59%	66%
Ask C	9%	8%	16%
Tell P	86%	83%	83%
Promise	30%	25%	53%

Table 4

Predictions and Results of Preplanned Comparisons of Various Ask/Tell/Promise Constructions

Theory	Predictions	Per Cent Correct at Three Ages 6	8	10	Statistical Conclusions
MDP not violated	Tell P>Promise	86/30	83/25	83/53	$p < .0001$
vs. violated	Tell C>Ask C	55/9	59/8	66/16	$p < .0001$
	Ask B>Ask C	44/9	62/8	66/16	$p < .0001$
	Tell B >Tell C	45/55	50/59	55/66	p n.s.
	Ask A_1>Ask B	81/44	97/62	94/66	$p < .001$
Syntactic	Ask A_2>Ask B	78/44	97/62	94/66	$p < .001$
Complexity of	Tell A_1>Tell B	77/45	80/50	83/55	$p < .001$
Complement Clause	Tell A_2>Tell B	83/45	91/50	91/55	$p < .001$
	Ask A_1>Ask A_2	81/78	97/97	94/92	p n.s.
	Tell A_2>Tell A_1	83/77	91/80	91/83	$p = .061$

Table 5

Percentage of Different Types of Error Responses out of Total Responses which are Errors on Ask and Tell A & B Construction by Three Age Groups

Construction	Type of Error	Age 6	8	10
Ask B: e.g., "Ask (to) Sonia what should you give the doll?"	Ask as if wh-clause were direct report: e.g., "What should you give the doll?"	20.3%	20.3%	17.2%
	Tell (with Sonia as subject): e.g., "Give the doll eggs."	12.4%	15.6%	15.6%
	Tell with self as subject: e.g., "I should give the doll eggs."	20.3%	1.6%	0.0%
Ask C: e.g., "Ask (to) Sonia what should (you/she) give the doll."	Ask with wrong subject: e.g., "What should you give the doll?"	53.1%	73.4%	34.4%
	Tell (with Sonia as subject): e.g., "Give the doll eggs."	37.5%	17.2%	18.8%
	Repeat wh-clause, not as a question: e.g., "What should you/she give the doll."	0.0%	0.0%	26.6%
Tell B: e.g., "Tell (to) Sonia what should she give the doll."	Ask as if wh-clause were direct report: e.g., "What should you give the doll?"	51.6%	45.3%	43.8%
Tell C: e.g., "Tell (to) Sonia what should (you/she) give the doll."	Ask as if wh-clause were direct report: e.g., "What should you give the doll?"	26.6%	26.6%	4.7%
	Ask (with self as subject): e.g., "What should I give the doll?"	1.6%	3.1%	4.7%
	Repeat wh-clause, not as a question: "What should you/she give the doll."	17.2%	12.5%	23.4%

Table 6

Arabic Speaking Children's Ask
Comprehension Stages Compared to Chomsky's[a]

Stage	Success	Failure	Number within age 6	8	10	Chomsky's Stage & Number
1	-none-	Cases A_1,A_2,B&C	2	0	1	A 8
2	Case A	Cases A_2,B&C	1	0	0	B 2
3	Cases A_1&A_2	Cases B&C	7	6	5	C not
4	Cases A_1,A_2&A_3	Case C	4	9	9	D comparable
5	Cases A_1,A_2,B&C	-none-	0	0	1	E 14

[a]The Arabic Stages are based on the ease with which children made the correct grammatical assignment of subject of complement clause of the Ask imperatives.

Table 7

Number of Children, by Age, Who Show Different Levels of Performance on Tell P and Promise Constructions

Tell P	Promise	Age 6	8	10
Fail[a]	Fail	0	0	1
Fail	Pass[b]	1	1	1
Mixed[c]	Mixed	1	1	0
Mixed	Pass	0	0	1
Pass	Fail	9	13	5
Pass	Mixed	3	0	3
Pass	Pass	2	1	5

[a]Fail was defined as making 3 or 4 errors out of 4 possbilities

[b]Pass was defined as making 0 or 1 errors out of 4 possbilities

[c]Mixed was defined as making 2 errors out of 4 possbilities